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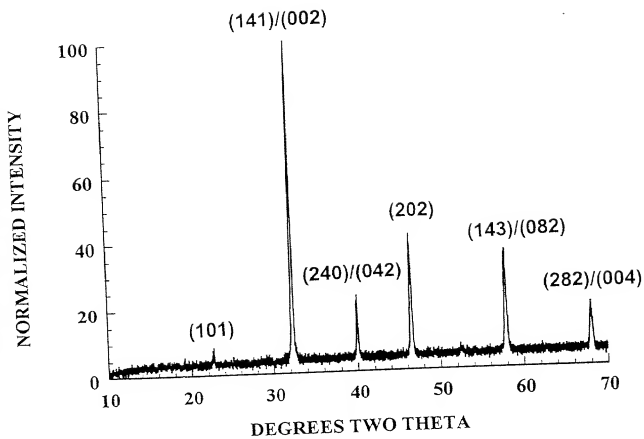


Fig. 1

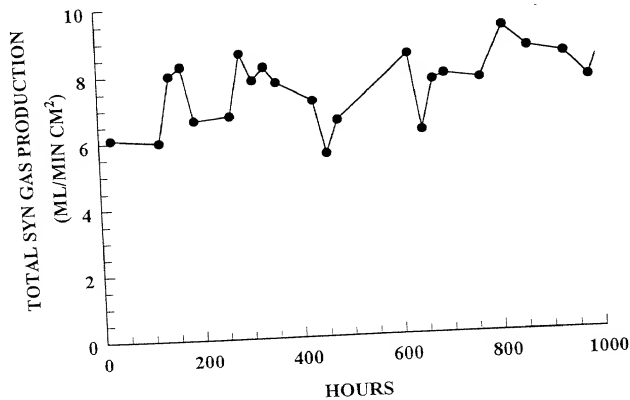


Fig. 2

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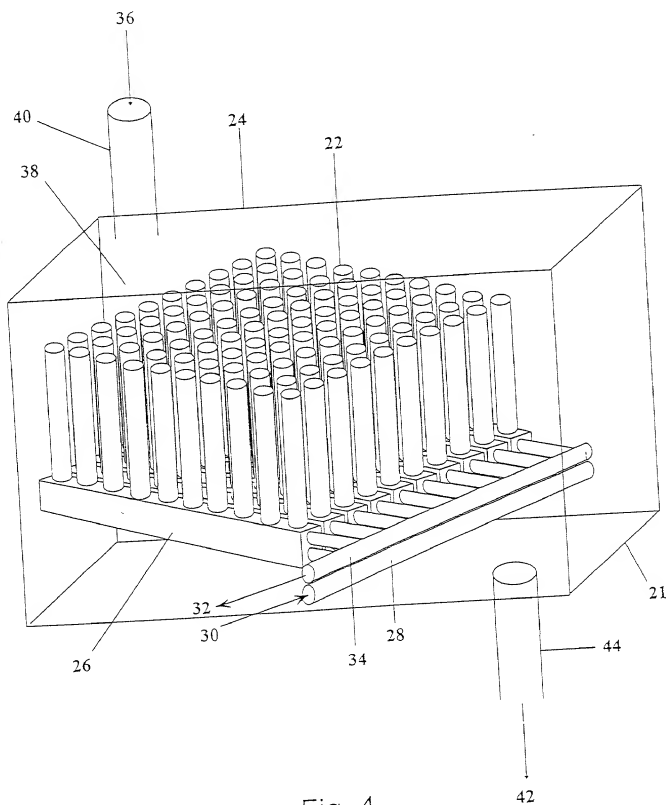


Fig. 4

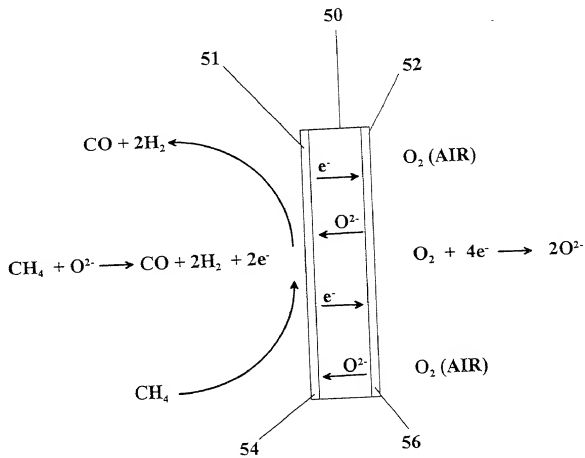


Fig. 5

The diagram illustrates the internal structure and operation of a solid oxide fuel cell (SOFC). A central vertical channel represents the electrolyte, with a top electrode (50) and a bottom electrode (54). The left side of the cell is the fuel inlet (52), where NO_x enters and N_2 exits. The right side is the air inlet (51), where H_2 enters and O_2 exits. The electrolyte contains O^{2-} ions, which move from the air side to the fuel side. Electrons (e^-) flow from the air side to the fuel side through the external circuit. The chemical reactions are as follows:

- Air side (right):** $\text{H}_2 + \text{O}^{2-} \rightarrow \text{H}_2\text{O} + 2e^-$ and $2\text{O}^{2-} \rightarrow \text{O}_2 + 4e^-$
- Fuel side (left):** $\text{NO}_x + 4e^- \rightarrow 1/2\text{N}_2 + 2\text{O}^{2-}$

The bottom of the cell is labeled "PARTIAL VACUUM OR H_2 ".

Fig. 6

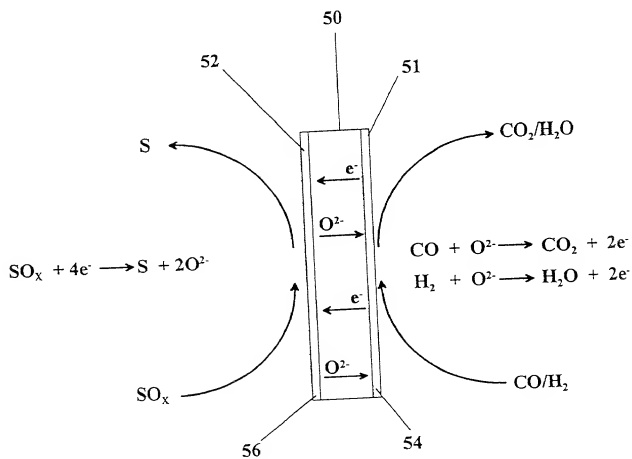


Fig. 7

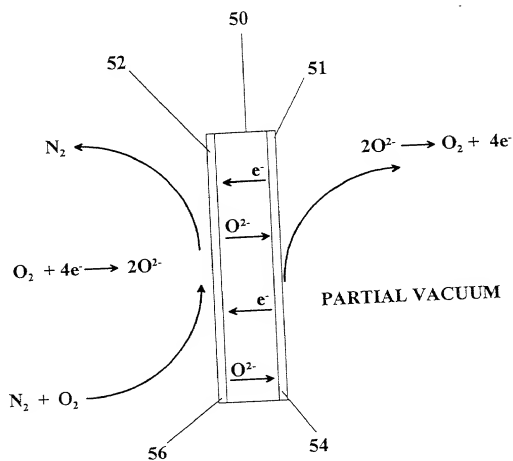


Fig. 8

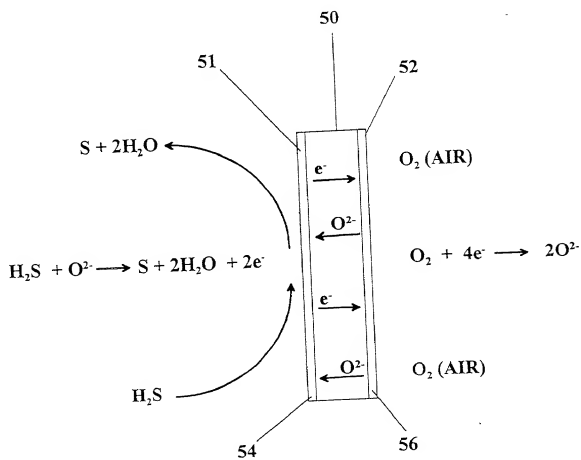


Fig. 9

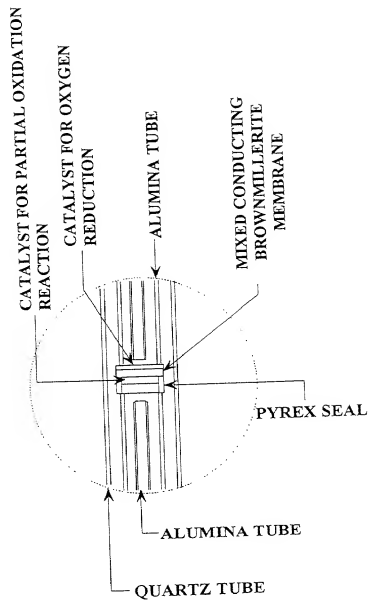


Fig. 10B

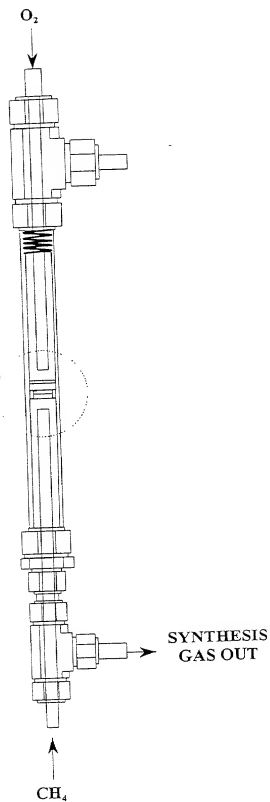


Fig. 10A

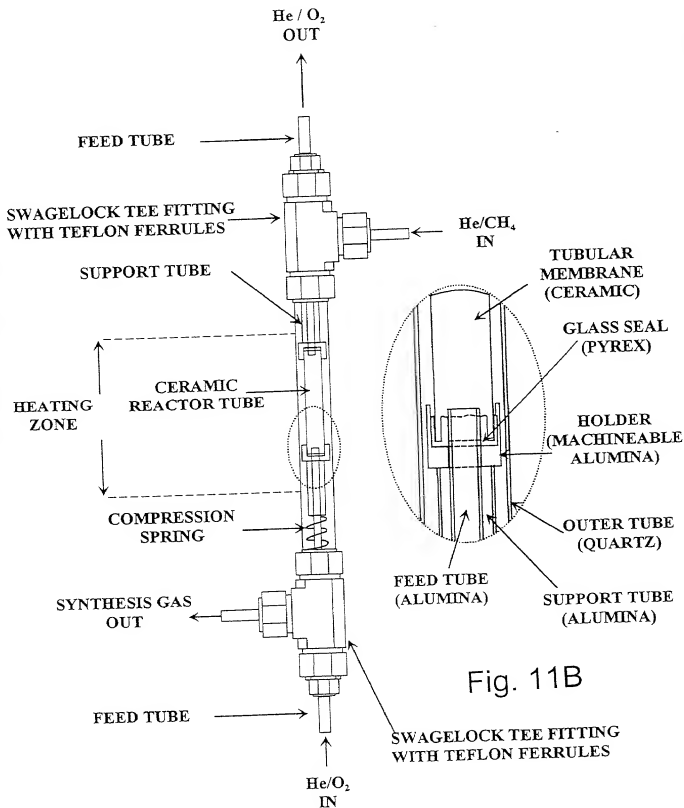


Fig. 11B

Fig. 11A